

PCT/US00/40039

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only	
International Application No.	PCT/US 00/40039
International Filing Date	16 MAR 2000 (16.03.00)
PCT INTERNATIONAL APPLICATION RO/US	
Name of receiving Office and "PCT International Application"	
Applicant's or agent's file reference (if desired) (12 characters maximum)	14737.737.02

Box No. I	TITLE OF INVENTION	
	SENSOR DESIGN AND PROCESS	
Box No. II	APPLICANT	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)		<input type="checkbox"/> This person is also inventor.
INPUT/OUTPUT, INC. 12300 Charles E. Selecman Drive Suite 200 Stafford, Texas 77477 United States of America		Telephone No. 281-933-3339 Facsimile No. 281-552-3157 Teleprinter No.
State (that is, country) of nationality: US		State (that is, country) of residence: US
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input checked="" type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box		
Box No. III	FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)		This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)
SELVAKUMAR, Arjun 4436 Jim West Bellaire, Texas 77401 United States of America		
State (that is, country) of nationality: IN		State (that is, country) of residence: US
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box		
<input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.		
Box No. IV	AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:		<input checked="" type="checkbox"/> agent <input type="checkbox"/> common representative
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		Telephone No.
McCOMBS, David L.; KICE, Warren B.; BECKER, Jeffrey M.; BELL, James R.; BUSH, Michael S.; COLSON, Randall E.; DAVIS, JR., Michael A.; DELEON, Ruben C.; HEADLEY, Tim; IRANI, Rita M.; BALCONI-LAMICA, Michael; MATTINGLY, Todd; O'DELL, David M.; SARFATIS, Brandi W.; SIMMONS, David O.; Haynes and Boone, LLP, 1000 Louisiana St., Ste 4300, Houston, Texas 77002, UNITED STATES OF AMERICA		713-547-2000
		Facsimile No.
		713-547-2600
		Teleprinter No.
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.		

PCT/US00/40039

Sheet No. 02

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
<i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>GOLDBERG, Howard D.</b>  <b>3007 Colony Crossing</b>  <b>Sugar Land, Texas 77479</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality: <b>US</b>	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>YU, Duli</b>  <b>15700 Lexington Boulevard, #1301</b>  <b>Sugar Land, Texas 77478</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality: <b>CN</b>	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>IP, Matthew</b>  <b>Austin, Texas</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality:	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>SCHMIDT, Martin A.</b>  <b>78 Ashley Place</b>  <b>Reading, Massachusetts 01867</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality: <b>US</b>	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p><input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on another continuation sheet.</p>	

Sheet No. 03

PCT/US00/40039

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
<i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>MARSH, James L.</b>  <b>3305 Shimmering Dawn</b>  <b>San Antonio, Texas 78253</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality: <b>US</b>	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of:</p> <p><input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>FUNG, Bing-Fai</b>  <b>Austin, Texas</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality: <b>US</b>	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of:</p> <p><input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p> <p><b>SIMON, Philip</b>  <b>Houston, Texas</b>  <b>United States of America</b></p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality: <b>US</b>	State (that is, country) of residence: <b>US</b>
<p>This person is applicant for the purposes of:</p> <p><input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</p>	<p>This person is:</p> <p><input type="checkbox"/> applicant only</p> <p><input type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p>
State (that is, country) of nationality:	State (that is, country) of residence:
<p>This person is applicant for the purposes of:</p> <p><input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p><input type="checkbox"/> Further applicants and/or (further) inventors are indicated on another continuation sheet.</p>	

Sheet No. 04 PCT/US00/40039

**Box No.V DESIGNATION OF STATES**

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

**Regional Patent**

- ☒ **AP** ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA** Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP** European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA** OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

**National Patent (if other kind of protection or treatment desired, specify on dotted line)**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> <b>AE</b> United Arab Emirates                  | <input checked="" type="checkbox"/> <b>LR</b> Liberia                                   |
| <input checked="" type="checkbox"/> <b>AL</b> Albania                               | <input checked="" type="checkbox"/> <b>LS</b> Lesotho                                   |
| <input checked="" type="checkbox"/> <b>AM</b> Armenia                               | <input checked="" type="checkbox"/> <b>LT</b> Lithuania                                 |
| <input checked="" type="checkbox"/> <b>AT</b> Austria                               | <input checked="" type="checkbox"/> <b>LU</b> Luxembourg                                |
| <input checked="" type="checkbox"/> <b>AU</b> Australia                             | <input checked="" type="checkbox"/> <b>LV</b> Latvia                                    |
| <input checked="" type="checkbox"/> <b>AZ</b> Azerbaijan                            | <input checked="" type="checkbox"/> <b>MA</b> Morocco                                   |
| <input checked="" type="checkbox"/> <b>BA</b> Bosnia and Herzegovina                | <input checked="" type="checkbox"/> <b>MD</b> Republic of Moldova                       |
| <input checked="" type="checkbox"/> <b>BB</b> Barbados                              | <input checked="" type="checkbox"/> <b>MG</b> Madagascar                                |
| <input checked="" type="checkbox"/> <b>BG</b> Bulgaria                              | <input checked="" type="checkbox"/> <b>MK</b> The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> <b>BR</b> Brazil                                |   |
| <input checked="" type="checkbox"/> <b>BY</b> Belarus                               | <input checked="" type="checkbox"/> <b>MN</b> Mongolia                                  |
| <input checked="" type="checkbox"/> <b>CA</b> Canada                                | <input checked="" type="checkbox"/> <b>MW</b> Malawi                                    |
| <input checked="" type="checkbox"/> <b>CH and LI</b> Switzerland and Liechtenstein  | <input checked="" type="checkbox"/> <b>MX</b> Mexico                                    |
| <input checked="" type="checkbox"/> <b>CN</b> China                                 | <input checked="" type="checkbox"/> <b>NO</b> Norway                                    |
| <input checked="" type="checkbox"/> <b>CR</b> Costa Rica                            | <input checked="" type="checkbox"/> <b>NZ</b> New Zealand                               |
| <input checked="" type="checkbox"/> <b>CU</b> Cuba                                  | <input checked="" type="checkbox"/> <b>PL</b> Poland                                    |
| <input checked="" type="checkbox"/> <b>CZ</b> Czech Republic                        | <input checked="" type="checkbox"/> <b>PT</b> Portugal                                  |
| <input checked="" type="checkbox"/> <b>DE</b> Germany                               | <input checked="" type="checkbox"/> <b>RO</b> Romania                                   |
| <input checked="" type="checkbox"/> <b>DK</b> Denmark                               | <input checked="" type="checkbox"/> <b>RU</b> Russian Federation                        |
| <input checked="" type="checkbox"/> <b>DM</b> Dominica                              | <input checked="" type="checkbox"/> <b>SD</b> Sudan                                     |
| <input checked="" type="checkbox"/> <b>EE</b> Estonia                               | <input checked="" type="checkbox"/> <b>SE</b> Sweden                                    |
| <input checked="" type="checkbox"/> <b>ES</b> Spain                                 | <input checked="" type="checkbox"/> <b>SG</b> Singapore                                 |
| <input checked="" type="checkbox"/> <b>FI</b> Finland                               | <input checked="" type="checkbox"/> <b>SI</b> Slovenia                                  |
| <input checked="" type="checkbox"/> <b>GB</b> United Kingdom                        | <input checked="" type="checkbox"/> <b>SK</b> Slovakia                                  |
| <input checked="" type="checkbox"/> <b>GD</b> Grenada                               | <input checked="" type="checkbox"/> <b>SL</b> Sierra Leone                              |
| <input checked="" type="checkbox"/> <b>GE</b> Georgia                               | <input checked="" type="checkbox"/> <b>TJ</b> Tajikistan                                |
| <input checked="" type="checkbox"/> <b>GH</b> Ghana                                 | <input checked="" type="checkbox"/> <b>TM</b> Turkmenistan                              |
| <input checked="" type="checkbox"/> <b>GM</b> Gambia                                | <input checked="" type="checkbox"/> <b>TR</b> Turkey                                    |
| <input checked="" type="checkbox"/> <b>HR</b> Croatia                               | <input checked="" type="checkbox"/> <b>TT</b> Trinidad and Tobago                       |
| <input checked="" type="checkbox"/> <b>HU</b> Hungary                               | <input checked="" type="checkbox"/> <b>TZ</b> United Republic of Tanzania               |
| <input checked="" type="checkbox"/> <b>ID</b> Indonesia                             | <input checked="" type="checkbox"/> <b>UA</b> Ukraine                                   |
| <input checked="" type="checkbox"/> <b>IL</b> Israel                                | <input checked="" type="checkbox"/> <b>UG</b> Uganda                                    |
| <input checked="" type="checkbox"/> <b>IN</b> India                                 | <input checked="" type="checkbox"/> <b>US</b> United States of America                  |
| <input checked="" type="checkbox"/> <b>IS</b> Iceland                               |   |
| <input checked="" type="checkbox"/> <b>JP</b> Japan                                 | <input checked="" type="checkbox"/> <b>UZ</b> Uzbekistan                                |
| <input checked="" type="checkbox"/> <b>KE</b> Kenya                                 | <input checked="" type="checkbox"/> <b>VN</b> Viet Nam                                  |
| <input checked="" type="checkbox"/> <b>KG</b> Kyrgyzstan                            | <input checked="" type="checkbox"/> <b>YU</b> Yugoslavia                                |
| <input checked="" type="checkbox"/> <b>KP</b> Democratic People's Republic of Korea | <input checked="" type="checkbox"/> <b>ZA</b> South Africa                              |
|   | <input checked="" type="checkbox"/> <b>ZW</b> Zimbabwe                                  |


Check-boxes reserved for designating States which have become party to the PCT after issuance of this sheet:

- ☐ .....
- ☐ .....

**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Sheet No. 05...

PCT/US00/40039

<b>Box No. VI PRIORITY CLAIM</b>					<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:			
		national application: country	regional application: regional Office	international application: receiving Office	
item (1) 17 Mar 1999 (17.03.99)	60/125,076	US			
item (2)					
item (3)					
<input checked="" type="checkbox"/> The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): (1)					
* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.					
<b>Box No. VII INTERNATIONAL SEARCHING AUTHORITY</b>					
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):		Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):			
ISA / US		Date (day/month/year)	Number	Country (or regional Office)	
<b>Box No. VIII CHECK LIST; LANGUAGE OF FILING</b>					
This international application contains the following number of sheets:		This international application is accompanied by the item(s) marked below:			
request	05	1. <input checked="" type="checkbox"/> fee calculation sheet			
description (excluding sequence listing part)	38	2. <input type="checkbox"/> separate signed power of attorney			
claims	05	3. <input type="checkbox"/> copy of general power of attorney; reference number, if any:			
abstract	01	4. <input type="checkbox"/> statement explaining lack of signature			
drawings	41	5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s):			
sequence listing part of description	00	6. <input type="checkbox"/> translation of international application into (language):			
Total number of sheets	90	7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material			
Figure of the drawings which should accompany the abstract:		8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form			
		9. <input checked="" type="checkbox"/> other (specify): \$2,468 Check for filing fees; postcard			
Language of filing of the international application:		ENGLISH			
<b>Box No. IX SIGNATURE OF APPLICANT OR AGENT</b>					
Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).					
 Todd Mattingly, Agent		March 2000 (Date)			
(16.03.00)					

For receiving Office use only		2. Drawings:	
1. Date of actual receipt of the purported international application:	410 Rec'd PCT/PTO 16 MAR 2000	<input type="checkbox"/> received:	
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		<input type="checkbox"/> not received:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):			
5. International Searching Authority (if two or more are competent): ISA / US	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.		

For International Bureau use only	
Date of receipt of the record copy by the International Bureau:	

PCT/US00/40039

This sheet is not part of and does not count as a sheet of the international application.

**PCT****FEE CALCULATION SHEET**

Annex to the Request

For receiving Office use only

PCT/US 00/40039  
International application No.16 MAR 2000 (16.03.00)  
Date stamp of the receiving OfficeApplicant's or agent's  
file reference

14737.737.02

Applicant

INPUT/OUTPUT, INC.

**CALCULATION OF PRESCRIBED FEES**

1. TRANSMITTAL FEE . . . . . 240.00 T

240

2. SEARCH FEE . . . . . 450.00 S

700

International search to be carried out by US

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

**Basic Fee**The international application contains 90 sheets.

first 30 sheets . . . . . 427.00 b1

427

60 x 10.00 - 600.00 b2

600

remaining sheets additional amount

Add amounts entered at b1 and b2 and enter total at B . . . . . 1,027.00 B

1027

**Designation Fees**The international application contains all designations.8 x 92.00 - 736.00 D

736

number of designation fees amount of designation fee payable (maximum 8)

Add amounts entered at B and D and enter total at I . . . . . 1,763.00 I

1763

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) . . . . . 15.00 P

15

5. TOTAL FEES PAYABLE . . . . . 2,468.00

2718

Add amounts entered at T, S, I and P, and enter total in the TOTAL box

TOTAL

☐ The designation fees are not paid at this time.**MODE OF PAYMENT**☒ authorization to charge  
deposit account (see below)☐ bank draft☐ coupons☒ cheque☐ cash☐ other (specify):☐ postal money order☐ revenue stamps**DEPOSIT ACCOUNT AUTHORIZATION** (this mode of payment may not be available at all receiving Offices)The RO/ US ☐ is hereby authorized to charge the total fees indicated above to my deposit account.☒ (this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.☐ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

08-1394

March 2000

Deposit Account No.

Date (day/month/year)

Signature Todd Mattingly, Reg. 40,298

09/996600

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 24 DEC 2001	
WIPO	PCT

Applicant's or agent's file reference 10-1012 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/40039	International filing date (day/month/year) 16 MARCH 2000	Priority date (day/month/year) 17 MARCH 1999
International Patent Classification (IPC) or national classification and IPC IPC(7): G01P 15/13, 15/08 and US Cl.: 73/514.32, 514.24, 514.38		
Applicant INPUT/OUTPUT, INC.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>0</u> sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

RECEIVED  
AUG - 1 2002  
100-2800 MAIL ROOM

Date of submission of the demand  11 OCTOBER 2000	Date of completion of this report  05 NOVEMBER 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  HELEN C. KWOK
Facsimile No. (703) 305-3230	Telephone No. (703) 305-4900

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/40039

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. statement**

Novelty (N)	Claims	<u>none</u>	YES
	Claims	<u>1-12</u>	NO
Inventive Step (IS)	Claims	<u>none</u>	YES
	Claims	<u>1-12</u>	NO
Industrial Applicability (IA)	Claims	<u>1-12</u>	YES
	Claims	<u>none</u>	NO

**2. citations and explanations (Rule 70.7)**

Claims 1, 2, 6 and 7-12 lack novelty under PCT Article 33(2) as being anticipated by U.S. Patent 5,652,384 (Henrion et al.).

Henrion et al. discloses an accelerometer comprising, as illustrated in Figures 1-4, a mass including a housing having a cavity with a spring mass assembly positioned with the cavity with one or more metal electrode patterns coupled to the spring mass assembly; a top cap wafer and a bottom cap wafer wherein each of the wafer includes a capacitor electrode, a cap balance metal pattern, a cap frame recess, cap bumpers. (See, column 3, line 24 to column 4, line 30; column 5, line 15 to column 6, line 54).

Claims 3-5 lack novelty under PCT Article 33(2) as being anticipated by U.S. Patent 4,922,756 (Henrion).

Henrion discloses an accelerometer comprising, as illustrated in Figures 5A-10, fabricating a mass including a housing having a cavity, a spring mass assembly; a top cap wafer; a bottom cap wafer; stacking the mass, the top cap wafer and the bottom cap wafer in a parallel manner; bonding the top cap wafer to the a side of the mass using a bonding process; bonding the bottom cap wafer to another side of the mass using the bonding process; and dicing cuts at predetermined locations on the accelerometer. (See, column 6, line 14 to column 8, line 49).

Claims 1-12 have industrial applicability under PCT Article 33(4) because the subject matter can be made or used in industry.

----- NEW CITATIONS -----

NONE



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/40039

**Supplemental B x**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

----- NEW CITATIONS -----

NONE

## PATENT COOPERATION TREATY

DOCKETED

From the INTERNATIONAL SEARCHING AUTHORITY

For Date/Time: 9-30-00

Docketed by: Lee

Action: Art-19

To: DAVID L. MCCOMBS  
HAYNES AND BOONE, LLP  
1000 LOUISIANA STREET  
SUITE 4300  
HOUSTON, TEXAS 77002

HAYNES &amp; BOONE

AUG 08 2000

RECEIVED

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

Date of Mailing  
(day/month/year)

31 JUL 2000

Applicant's or agent's file reference  
14737.737.02

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.  
PCT/US00/40039

International filing date  
(day/month/year)  
16 MARCH 2000

Applicant  
INPUT/OUTPUT, INC.

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

HEZRON E. WILLIAMS

Telephone No. (703) 305-4900

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 14737.737.02	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"><b>FOR FURTHER ACTION</b></div> <div style="font-size: small;">see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>	
International application No. PCT/US00/40039	International filing date (day/month/year) 16 MARCH 2000	(Earliest) Priority Date (day/month/year) 17 MARCH 1999
Applicant INPUT/OUTPUT, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
2. ☐ Certain claims were found unsearchable (See Box I).
3. ☐ Unity of invention is lacking (See Box II).
4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:
5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is Figure No. 4

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/40039

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

NEW ABSTRACT

An accelerometer (305) for measuring seismic data. The accelerometer (305) includes an integrated vent hole for use during a vacuum sealing process and a balanced metal pattern for reducing cap wafer bowing. The accelerometer (305) also includes a top cap press frame recess (405) and a bottom cap press frame recess (420) for isolating bonding pressures to specified regions of the accelerometer (305). The accelerometer (305) is vacuum-sealed and includes a balanced metal pattern (730) to prevent degradation of the performance of the accelerometer (305). A dicing process is performed on the accelerometer (305) to isolate the electrical leads of the accelerometer (305). The accelerometer (305) further includes overshock protection bumpers (720) and patterned metal electrodes to reduce stiction during the operation of the accelerometer (305).

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/40039

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : G01P 15/13, 15/08 US CL : 73/514.32, 514.24, 514.38 According to International Patent Classification (IPC) or to both national classification and IPC														
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 73/514.32, 514.24, 514.38, 514.16, 514.23, 514.36, 862.61, 862.626; 361/280, 283.3 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched None Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST search terms: accelerometer, stiction, electrode, capacitor, stiction reducing pattern														
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>														
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.												
X	US 5,652,384 A (HENRION et al.) 29 July 1997 (29.07.1997), col. 3, line 24 to col. 4, line 30 and col. 5, line 15 to col. 6, line 54.	1, 2, 4, 6, 8-12												
X	US 4,922,756 A (HENRION) 08 May 1990 (08.05.1990), col. 6, line 14 to col. 8, line 49.	3, 5												
X	US 5,901,939 A (CABUZ et al.) 11 May 1999 (11.05.1999), col. 4, line 45 to col. 5, line 4.	7												
A	US 5,446,616 A (WARREN) 29 August 1995 (29.08.1995), col. 1, line 60 to col. 2, line 33.	1-12												
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.														
<table border="0"> <tr> <td>* Special categories of cited documents:</td> <td>*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>*A* document defining the general state of the art which is not considered to be of particular relevance</td> <td>*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>*E* earlier document published on or after the international filing date</td> <td>*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>*Z* document member of the same patent family</td> </tr> <tr> <td>*O* document referring to an oral disclosure, use, exhibition or other means</td> <td></td> </tr> <tr> <td>*P* document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family	*O* document referring to an oral disclosure, use, exhibition or other means		*P* document published prior to the international filing date but later than the priority date claimed	
* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention													
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone													
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art													
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family													
*O* document referring to an oral disclosure, use, exhibition or other means														
*P* document published prior to the international filing date but later than the priority date claimed														
Date of the actual completion of the international search 22 JUNE 2000		Date of mailing of the international search report 31 JUL 2000												
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230		Authorized officer HEZRON E. WILLIAMS Telephone No. (703) 305-4900												

**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/US00/40039**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,614,742 A (GESSNER et al.) 25 March 1997 (25.03.1997), Abstract.	1-12
A	US 5,877,421 A (BIEBL et al.) 02 March 1999 (02.03.1999), Abstract.	1-12
A	US 6,035,714 A (YAZDI et al.) 14 March 2000 (14.03.2000), Abstract.	1-12

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: TODD A. BYNUM  
MADAN, MOSSMAN & SRIRAM, PC  
2603 AUGUSTA, SUITE 700  
HOUSTON, TEXAS 77059

## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing  
(day/month/year)

19 DEC 2001

Applicant's or agent's file reference

10-1012 PCT

#### IMPORTANT NOTIFICATION

International application No.

PCT/US00/40039

International filing date (day/month/year)

16 MARCH 2000

Priority Date (day/month/year)

17 MARCH 1999

Applicant

INPUT/OUTPUT, INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

HELEN C. KWOK

Telephone No. (703) 305-4900

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 10-1012 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/40039	International filing date (day/month/year) 16 MARCH 2000	Priority date (day/month/year) 17 MARCH 1999
International Patent Classification (IPC) or national classification and IPC IPC(7): G01P 15/13, 15/08 and US Cl.: 73/514.32, 514.24, 514.38		
Applicant INPUT/OUTPUT, INC.		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>4</u> sheets.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of <u>0</u> sheets.
3.	This report contains indications relating to the following items: <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand  11 OCTOBER 2000	Date of completion of this report  05 NOVEMBER 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  HELEN C. KWOK
Facsimile No. (703) 305-3230	Telephone No. (703) 305-4900



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/40039

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed☒ the description:pages 1-38, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_☒ the claims:pages 39-43, as originally filedpages NONE, as amended (together with any statement) under Article 19pages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_☒ the drawings:pages 1-41, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_☒ the sequence listing part of the description:pages NONE, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☒ The amendments have resulted in the cancellation of:☒ the description, pages none☒ the claims, Nos. none☒ the drawings, sheets/fig none5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\*Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/40039

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. statement**

Novelty (N)	Claims <u>none</u>	YES
	Claims <u>1-12</u>	NO
Inventive Step (IS)	Claims <u>none</u>	YES
	Claims <u>1-12</u>	NO
Industrial Applicability (IA)	Claims <u>1-12</u>	YES
	Claims <u>none</u>	NO

**2. citations and explanations (Rule 70.7)**

Claims 1, 2, 6 and 7-12 lack novelty under PCT Article 33(2) as being anticipated by U.S. Patent 5,652,384 (Henrion et al.).

Henrion et al. discloses an accelerometer comprising, as illustrated in Figures 1-4, a mass including a housing having a cavity with a spring mass assembly positioned with the cavity with one or more metal electrode patterns coupled to the spring mass assembly; a top cap wafer and a bottom cap wafer wherein each of the wafer includes a capacitor electrode, a cap balance metal pattern, a cap frame recess, cap bumpers. (See, column 3, line 24 to column 4, line 30; column 5, line 15 to column 6, line 54).

Claims 3-5 lack novelty under PCT Article 33(2) as being anticipated by U.S. Patent 4,922,756 (Henrion).

Henrion discloses an accelerometer comprising, as illustrated in Figures 5A-10, fabricating a mass including a housing having a cavity, a spring mass assembly; a top cap wafer; a bottom cap wafer; stacking the mass, the top cap wafer and the bottom cap wafer in a parallel manner; bonding the top cap wafer to the a side of the mass using a bonding process; boding the bottom cap wafer to another side of the mass suing the bonding process; and dicing cuts at predetermined locations on the accelerometer. (See, column 6, line 14 to column 8, line 49).

Claims 1-12 have industrial applicability under PCT Article 33(4) because the subject matter can be made or used in industry.

----- NEW CITATIONS -----

NONE

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/40039

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

----- NEW CITATIONS -----  
NONE

PCT/US00/40039  
P. ENT COOPERATION TREA

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

MADAN, Paul, S.  
Madan, Mossman & Sriram, P.C.  
Suite 700  
2603 Augusta  
Houston, TX 77057  
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 18 October 2001 (18.10.01)	
Applicant's or agent's file reference 14737.737.02	IMPORTANT NOTIFICATION
International application No. PCT/US00/40039	International filing date (day/month/year) 16 March 2000 (16.03.00)
International publication date (day/month/year) 21 September 2000 (21.09.00)	Priority date (day/month/year) 17 March 1999 (17.03.99)
Applicant INPUT/OUTPUT, INC. et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

Priority date	Priority application No.	Country or regional Office or PCT receiving Office	Date of receipt of priority document
17 Marc 1999 (17.03.99)	60/125,076	US	21 Sept 2001 (21.09.01)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

Tessadei PAMPLIEGA

Telephone No. (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 04 October 2001 (04.10.01)	
<b>International application No.</b> PCT/US00/40039	<b>Applicant's or agent's file reference</b> 14737.737.02
<b>International filing date (day/month/year)</b> 16 March 2000 (16.03.00)	<b>Priority date (day/month/year)</b> 17 March 1999 (17.03.99)
<b>Applicant</b> SELVAKUMAR, Arjun et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
 11 October 2000 (11.10.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b> Juan CRUZ Telephone No.: (41-22) 338.83.38
--	--

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/40039

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G01P 15/13, 15/08

US CL :73/514.32, 514.24, 514.38

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 73/514.32, 514.24, 514.38, 514.16, 514.23, 514.36, 862.61, 862.626; 361/280, 283.3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

search terms: accelerometer, stiction, electrode, capacitor, stiction reducing pattern

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,652,384 A (HENRION et al.) 29 July 1997 (29.07.1997), col. 3, line 24 to col. 4, line 30 and col. 5, line 15 to col. 6, line 54.	1, 2, 4, 6, 8-12
X	US 4,922,756 A (HENRION) 08 May 1990 (08.05.1990), col. 6, line 14 to col. 8, line 49.	3, 5
X	US 5,901,939 A (CABUZ et al.) 11 May 1999 (11.05.1999), col. 4, line 45 to col. 5, line 4.	7
A	US 5,446,616 A (WARREN) 29 August 1995 (29.08.1995), col. 1, line 60 to col. 2, line 33.	1-12

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

22 JUNE 2000

Date of mailing of the international search report

31 JUL 2000

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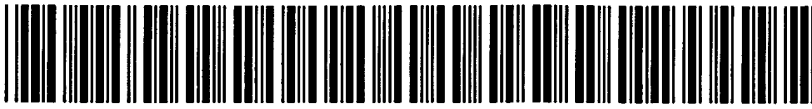
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**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/US00/40039**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,614,742 A (GESSNER et al.) 25 March 1997 (25.03.1997), Abstract.	1-12
A	US 5,877,421 A (BIEBL et al.) 02 March 1999 (02.03.1999), Abstract.	1-12
A	US 6,035,714 A (YAZDI et al.) 14 March 2000 (14.03.2000), Abstract.	1-12



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